

BERNHART DAM BREACH PLAN

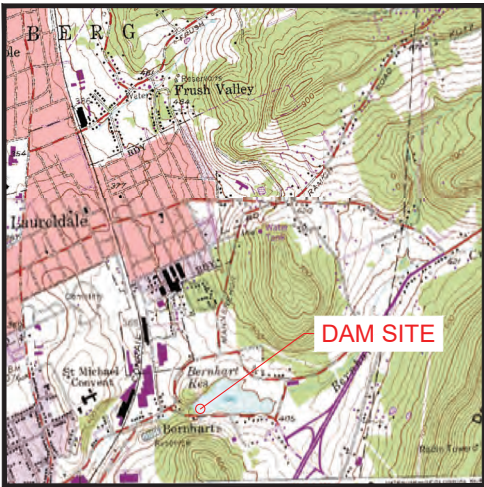
MUHLENBERG TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

MARCH 2020

PADEP DAM ID: 06-001

PROPERTY OWNER/PROJECT SPONSOR:
CITY OF READING
503 NORTH 6TH STREET
READING, PA 19601

NOTES:
LIDAR TOPOGRAPHIC DATA OBTAINED FROM PENNSYLVANIA
SPATIAL DATA ACCESS (PASDA) PANEL
39002480PAS_CONT.(HTTP://WWW.PASDA.PSU.EDU/)
SUPPLEMENTED WITH AECOM FIELD TOPOGRAPHIC SURVEY
PERFORMED ON JULY 25, 2017.



LOCATION MAP

SCALE: 1" = 2000'
USGS QUAD: TEMPLE, PA

SHEET INDEX		
SHEET	DESCRIPTION	NO.
CV	COVER SHEET	1
EX	EXISITNG SITE PLAN	2
PR-1, PR-2	E&S PLAN / PROPOSED SITE PLAN	3 , 4
PROF	LONGITUDINAL PROFILE	5
XSEC	EXISTING AND PROPOSED CROSS SECTIONS	6
DET-1, DET-2	DETAILS	7, 8

CONTACTS:

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTH-CENTRAL REGIONAL OFFICE
909 ELMERTON AVENUE
HARRISBURG, PA 17110

BERKS COUNTY CONSERVATION DISTRICT
1238 WELFARE ROAD, SUITE 200
LEESPORT, PA 19533

NOT ALL UTILITIES ARE SHOWN



THE LOCATION OF ALL UTILITIES (ABOVE OR BELOW GROUND)
SHOWN ON THESE DRAWINGS ARE APPROXIMATE & WERE
OBTAINED FROM USGS TOPO MAPS AND/OR UTILITY OWNERS.
AECOM DOES NOT GUARANTEE THAT LOCATION SHOWN ON THE
DRAWINGS ARE CORRECT. IT SHALL BE THE RESPONSIBILITY OF
THE CONTRACTOR TO DETERMINE LOCATIONS OF EXISTING
UTILITIES (ABOVE OR BELOW GROUND) & TO NOTIFY THE
RESPECTIVE UTILITY OWNERS BEFORE BEGINNING CONSTRUCTION.

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES
3 WORKING DAYS NOTICE FOR
CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL
PENNSYLVANIA ONE CALL SYSTEM INC.
1-800-242-1776

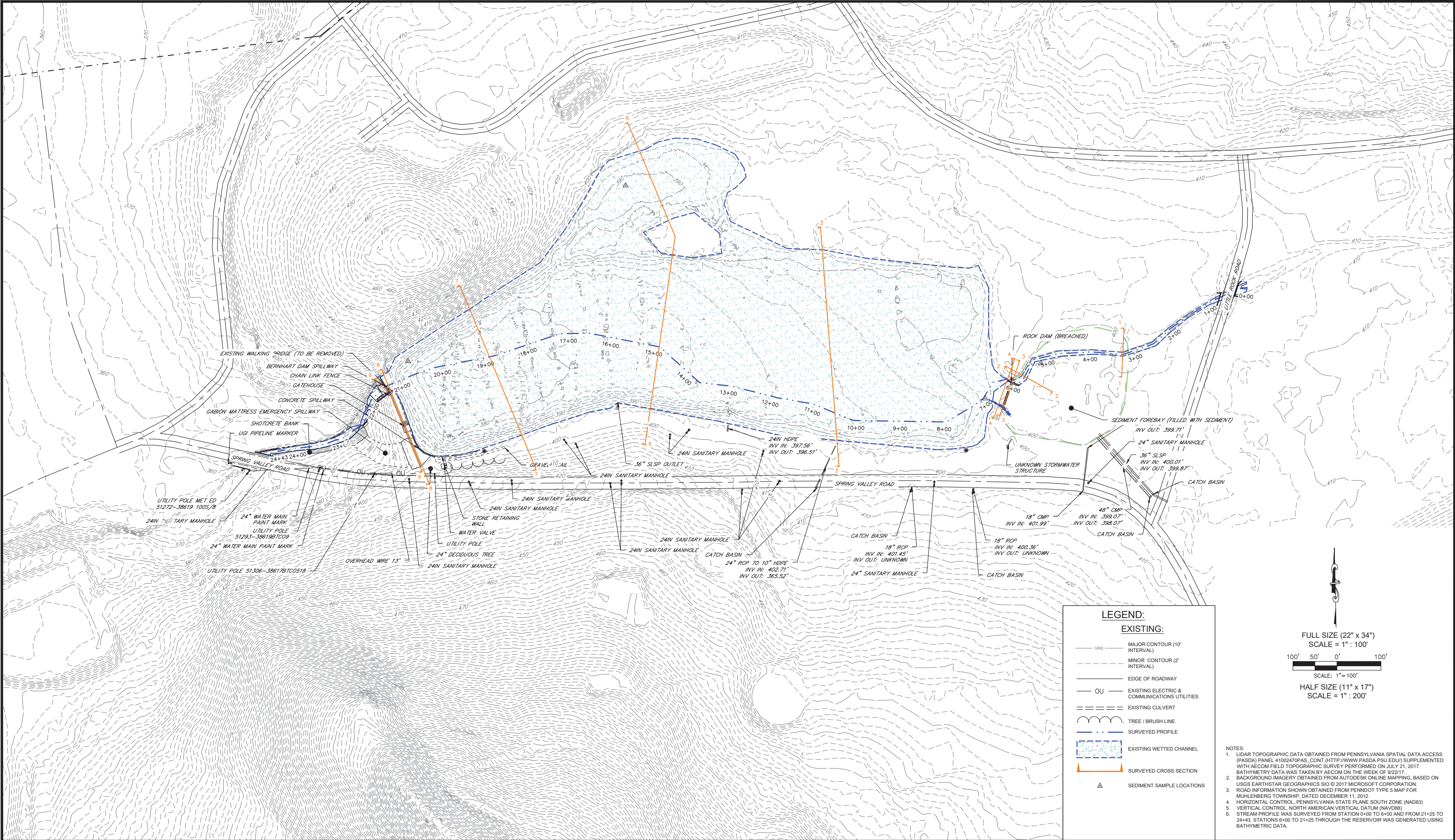
DESIGN ONE CALL SERIAL NO.: 20173381994

LIST OF UTILITIES

AIR LIQUIDE INDUSTRIAL
MUHLENBURG TOWNSHIP
COMCAST CABLE COMMUNICATIONS INC.
METROPOLITAN EDISON CO/FIRST ENERGY
CITY OF READING
READING AREA WATER AUTHORITY
UGI READING

VERIZON WIRELESS
LAURELDALE BOROUGH

REVISIONS						DATE			BERNHART DAM BREACH PLAN MUHLENBERG TOWNSHIP, BERKS COUNTY, PENNSYLVANIA DEP STREAM CODE: 06-001	JOB NO.: 60547776	SCALE: AS SHOWN		
NO.	BY	CHKD	DATE	DESCRIPTION	DESIGNED BY: BRIAN SCHULTZ	09/09/19				DRAWN BY: BRIAN SCHULTZ	09/09/19	SHEET: CV	DATE: 03/17/2020
					CHECKED BY: BILL WEIHBRIGHT	09/10/19							
					APPROVED BY: ROBERT PINCIOTTI	03/17/20							
					CLIENT APPROVED BY: CITY OF READING	N/A							
					FILE:								
COVER SHEET										DRAWING NO.: 1	REV.: 0		



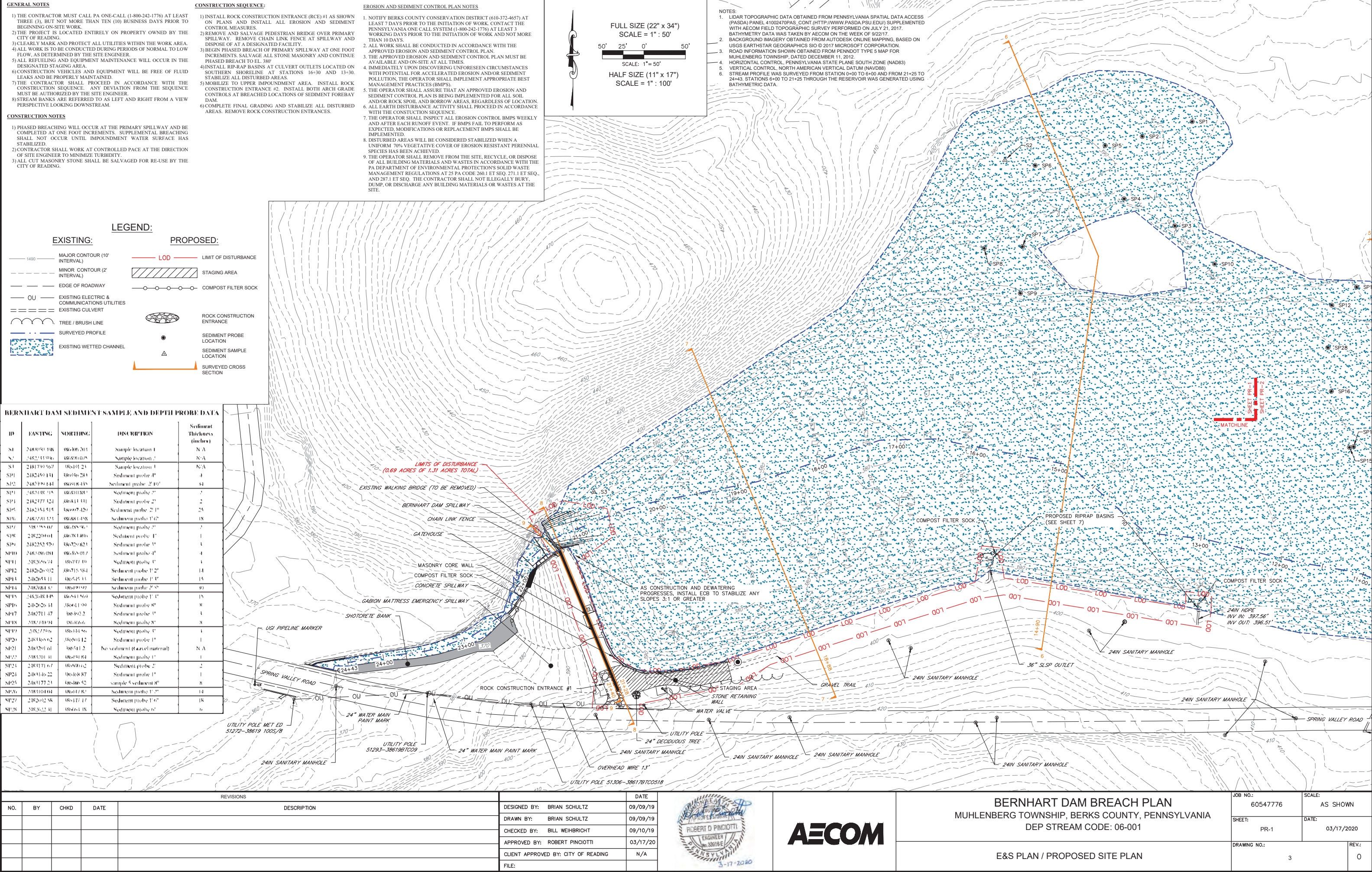
REVISIONS					DESCRIPTION
NO.	BY	CHKD	DATE		

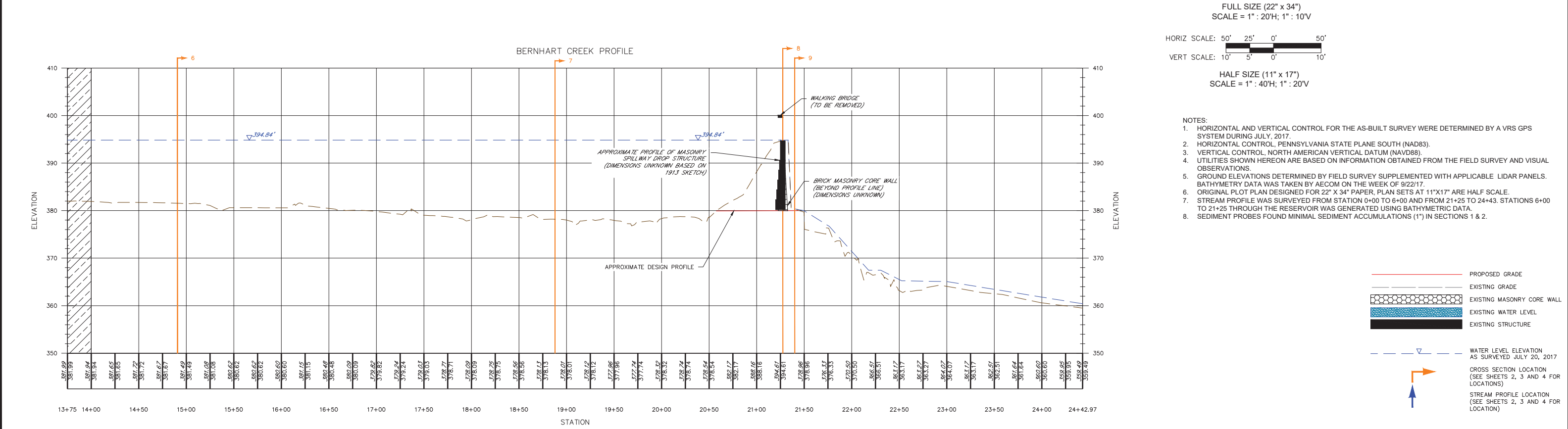
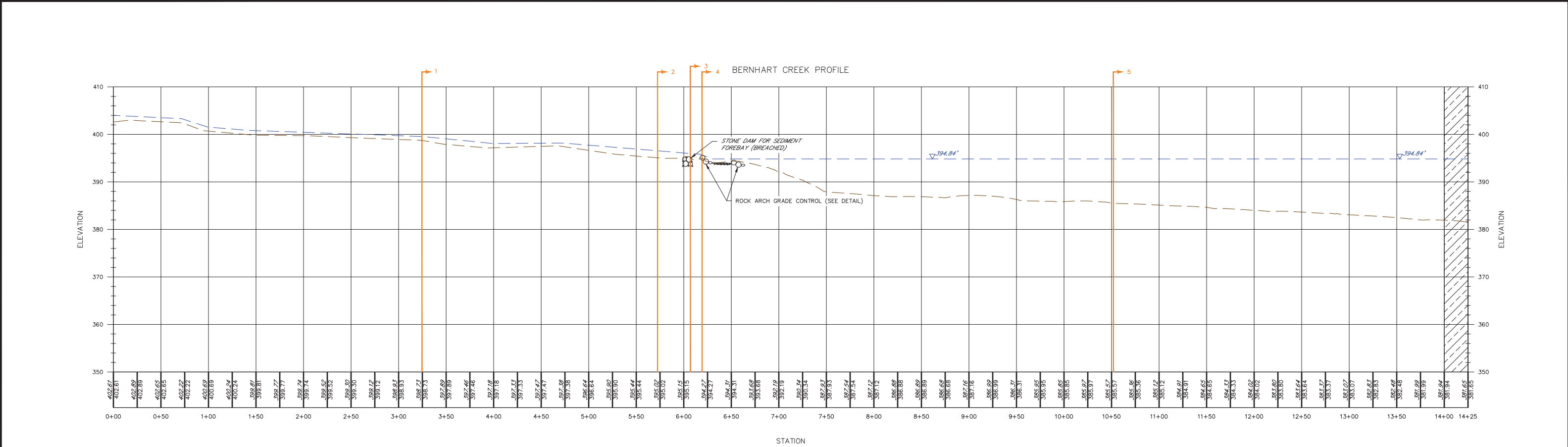
DESIGNED BY: BRIAN SCHULTZ	09/09/19
DRAWN BY: BRIAN SCHULTZ	09/09/19
CHECKED BY: BILL WEIBRIGHT	09/10/19
APPROVED BY: ROBERT PINCIOTTI	03/17/20
CLIENT APPROVED BY: CITY OF READING	N/A
FILE:	



BERNHART DAM BREACH PLAN	
MUHLENBERG TOWNSHIP, BERKS COUNTY, PENNSYLVANIA	
DEP STREAM CODE: 06-001	
EXISTING SITE PLAN	

JOB NO:	60547776	SCALE:	AS SHOWN
SHEET:	EX	DATE:	03/17/2020
DRAWING NO.:	2	REV.:	0





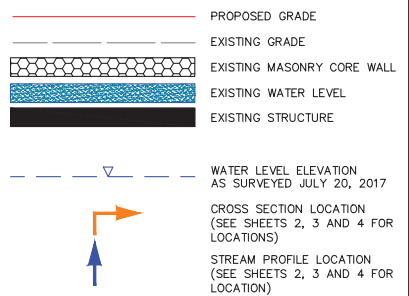
FULL SIZE (22" x 34")
SCALE = 1" : 20'H; 1" : 10'V

HORIZ SCALE: 50' 25' 0' 50'
VERT SCALE: 10' 5' 0' 10'

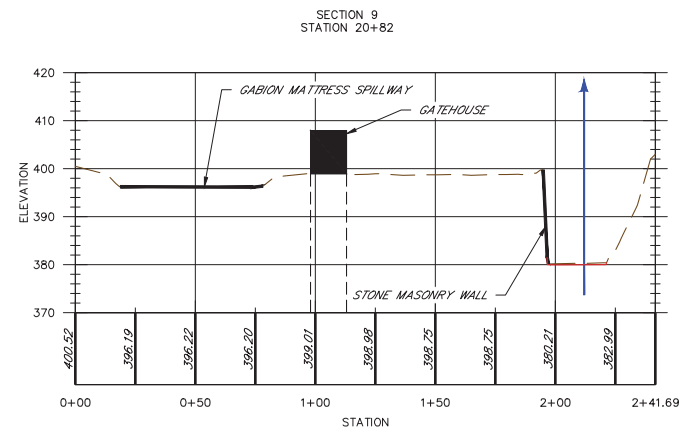
HALF SIZE (11" x 17")
SCALE = 1" : 40'H; 1" : 20'V

NOTES:

1. HORIZONTAL AND VERTICAL CONTROL FOR THE AS-BUILT SURVEY WERE DETERMINED BY A VRS GPS SYSTEM DURING JULY, 2017.
2. HORIZONTAL CONTROL, PENNSYLVANIA STATE PLANE SOUTH (NAD83).
3. VERTICAL CONTROL, NORTH AMERICAN VERTICAL DATUM (NAVD88).
4. UTILITIES SHOWN HEREON ARE BASED ON INFORMATION OBTAINED FROM THE FIELD SURVEY AND VISUAL OBSERVATIONS.
5. GROUND ELEVATIONS DETERMINED BY FIELD SURVEY SUPPLEMENTED WITH APPLICABLE LIDAR PANELS. BATHYMETRY DATA WAS TAKEN BY AECOM ON THE WEEK OF 9/22/17.
6. ORIGINAL PLOT PLAN DESIGNED FOR 22" X 34" PAPER, PLAN SETS AT 11"x17" ARE HALF SCALE.
7. STREAM PROFILE WAS SURVEYED FROM STATION 0+00 TO 6+00 AND FROM 21+25 TO 24+43. STATIONS 6+00 TO 21+25 THROUGH THE RESERVOIR WAS GENERATED USING BATHYMETRIC DATA.
8. SEDIMENT PROBES FOUND MINIMAL SEDIMENT ACCUMULATIONS (1") IN SECTIONS 1 & 2.




REVISIONS					DESIGNED BY: BRIAN SCHULTZ		DATE	<div>BERNHART DAM BREACH PLAN MUHLENBERG TOWNSHIP, BERKS COUNTY, PENNSYLVANIA DEP STREAM CODE: 06-001</div> <div>LONGITUDINAL PROFILE</div>		JOB NO.:	SCALE:
NO.	BY	CHKD	DATE	DESCRIPTION	DRAWN BY: BRIAN SCHULTZ		09/09/19			60547776	AS SHOWN
					CHECKED BY: BILL WEIHBRIGHT		09/10/19			SHEET:	DATE:
					APPROVED BY: ROBERT PINCIOTTI		03/17/20			PROF	03/17/2020
					CLIENT APPROVED BY: CITY OF READING		N/A			DRAWING NO.:	REV.:
					FILE:					5	0




-
- PROPOSED GRADE
- EXISTING GRADE
- EXISTING MASONRY CORE WALL
- EXISTING WATER LEVEL
- EXISTING STRUCTURE
- WATER LEVEL ELEVATION
AS SURVEYED JULY 20, 2017
- CROSS SECTION LOCATION
(SEE SHEETS 2, 3 AND 4 FOR
LOCATIONS)
- STREAM PROFILE LOCATION
(SEE SHEETS 2, 3 AND 4 FOR
LOCATION)

FULL SIZE (22" x 34")
SCALE = 1" = 20'H; 1" = 10'V

HORIZ SCALE: 20' 10' 0' 20'




VERT SCALE: 10' 5' 0' 10'






HALF SIZE (11" x 17")
SCALE = 1" = 40'H; 1" = 20'V

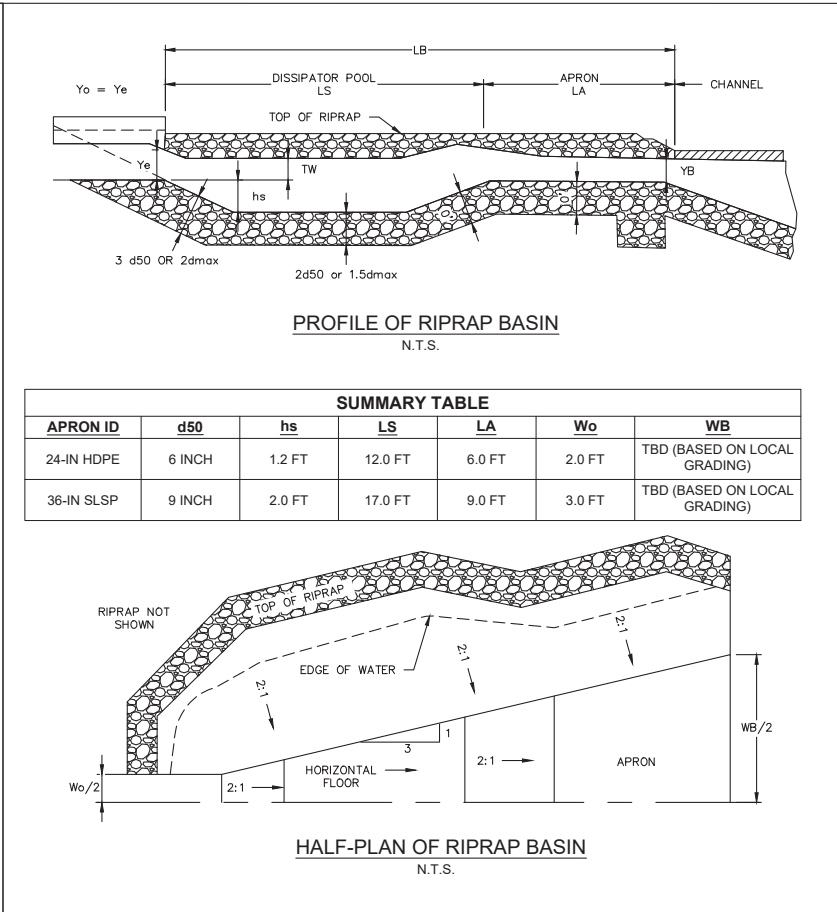
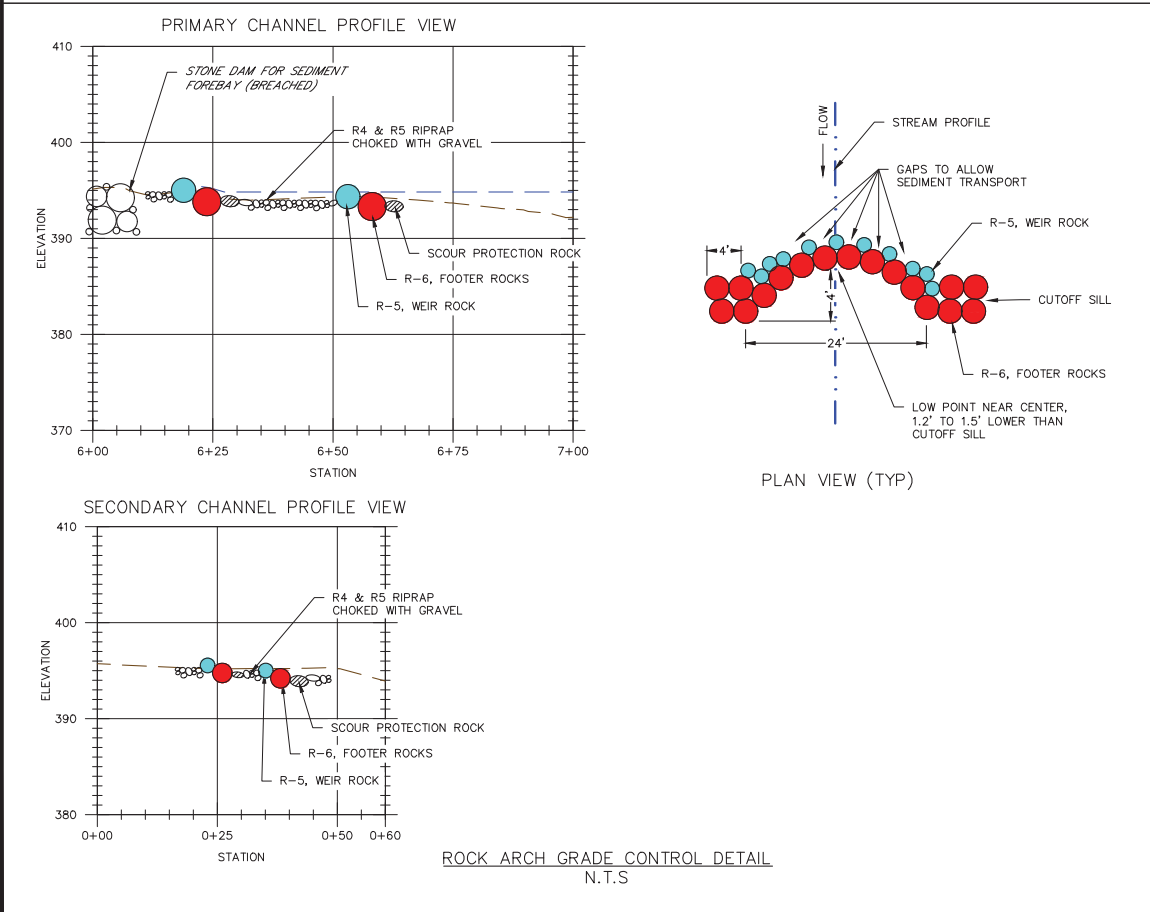
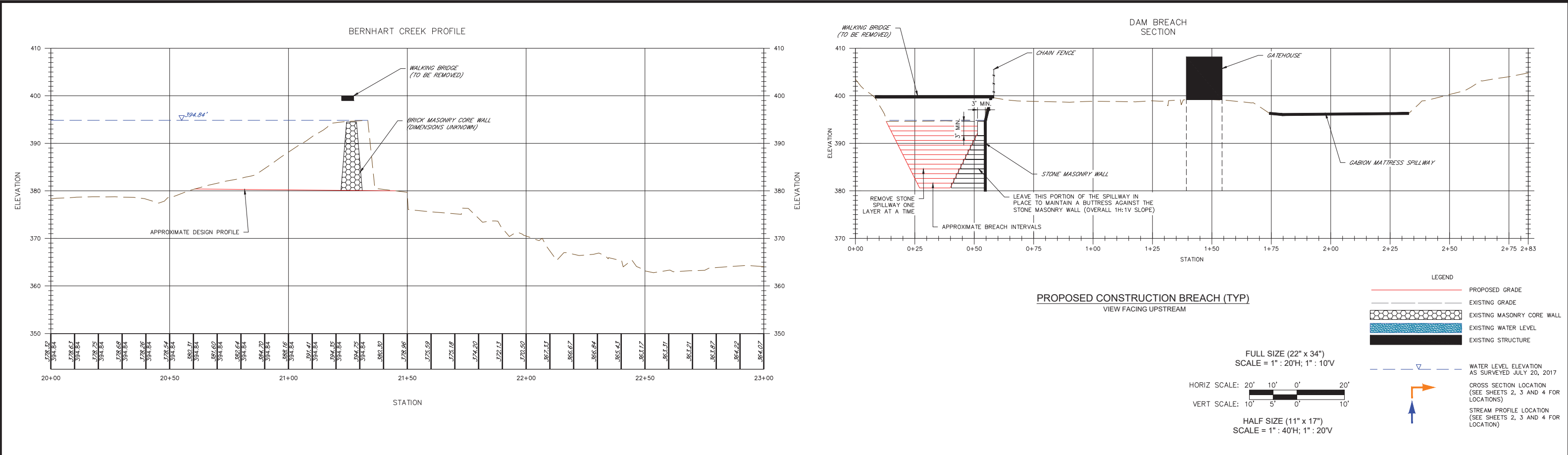
HORIZ SCALE: 40' 20' 0' 40'





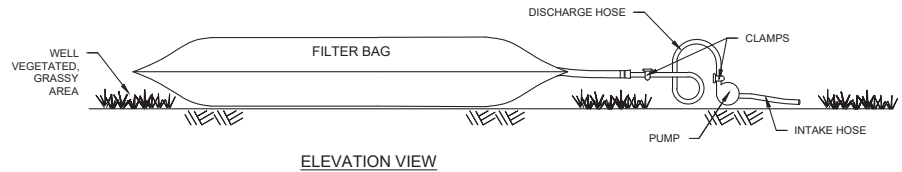
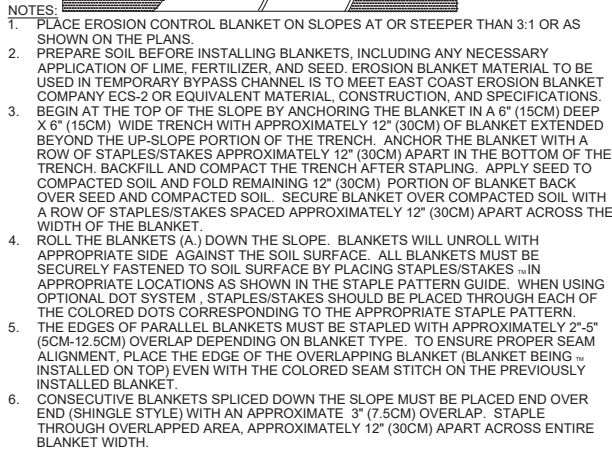
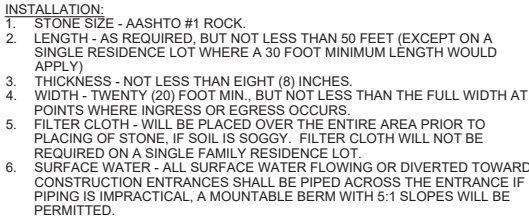
VERT SCALE: 20' 10' 0' 20'



REVISIONS					DATE			BERNHART DAM BREACH PLAN MUHLENBERG TOWNSHIP, BERKS COUNTY, PENNSYLVANIA DEP STREAM CODE: 06-001	JOB NO.: 60547776	SCALE: AS SHOWN			
NO.	BY	CHKD	DATE	DESCRIPTION	DESIGNED BY: BRIAN SCHULTZ				09/09/19	SHEET: XSEC	DATE: 03/17/2020		
					DRAWN BY: BRIAN SCHULTZ				09/09/19	EXISTING AND PROPOSED CROSS SECTIONS		DRAWING NO.: 6	REV.: 0
					CHECKED BY: BILL WEIMBRICHT				09/10/19				
					APPROVED BY: ROBERT PINCIOTTI				03/17/20				
					CLIENT APPROVED BY: CITY OF READING				N/A				
					FILE:								



REVISIONS											BERNHART DAM BREACH PLAN MUHLENBERG TOWNSHIP, BERKS COUNTY, PENNSYLVANIA DEP STREAM CODE: 06-001		JOB NO.: 60547776	SCALE: AS SHOWN
NO.	BY	CHKD	DATE	DESCRIPTION	DESIGNED BY: BRIAN SCHULTZ	09/09/19					DETAILS		DRAWING NO.: 7	REV.: 0
				DRAWN BY: BRIAN SCHULTZ	09/09/19									
				CHECKED BY: BILL WEIMBRICHT	09/10/19									
				APPROVED BY: ROBERT PINCIOTTI	03/17/20									
				CLIENT APPROVED BY: CITY OF READING	N/A									
				FILE:										



- NOTES:

1. LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS MAY BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 lb/in
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 lb
MULLEN BURST	ASTM D-3786	350 psi
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME $\frac{1}{2}$ FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. IT IS RECOMMENDED THAT BAGS BE PLACED ON STRAPS TO FACILITATE REMOVAL.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE IT IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.
4. NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHOULD BE INSTALLED BELOW BAGS LOCATED WITHIN 50 FEET OF RECEIVING STREAM OR WHERE GRASSY AREA IS NOT AVAILABLE. A COMPOST BERM OR COMPOST FILTER SOCK SHALL BE PLACED BELOW ANY BAG DISCHARGING TO A SPECIAL PROTECTION SURFACE WATER.
5. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.
6. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR $\frac{1}{2}$ THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
7. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

PUMPED WATER FILTER BAG DETAIL
N.T.S.

GENERAL CONSTRUCTION NOTES:

1. PRIOR TO START OF RESTORATION WORK, INSTALL ALL IDENTIFIED PERIMETER E&S CONTROLS IN ACCORDANCE WITH THE STANDARDS IDENTIFIED IN THE 2012 PENNSYLVANIA EROSION AND SEDIMENT CONTROL MANUAL.
2. MAINTAIN INSTALLED PERIMETER E&S CONTROLS IN ACCORDANCE WITH THE REQUIREMENTS IDENTIFIED IN THE 2012 PENNSYLVANIA EROSION AND SEDIMENT CONTROL MANUAL.
3. SPREAD TOPSOIL AT A MINIMUM DEPTH OF 6 INCHES ACROSS ALL DISTURBED AREAS TO BE SEED. ADD FERTILIZER/SOIL AMENDMENTS AND SEED ALL DISTURBED AREAS. REFER TO TABLE 1.
4. FERTILIZATION/SOIL SUPPLEMENT RATES SHALL MATCH THE RATES IDENTIFIED IN TABLE 1 UNLESS SOIL SAMPLES ARE ANALYZED FOR THE ACTUAL REQUIRED RATES.
5. APPLY FERTILIZERS AND SOIL SUPPLEMENTS IN ACCORDANCE WITH THE 2012 PENNSYLVANIA EROSION AND SEDIMENT CONTROL MANUAL.
6. SEED THE DISTURBED AREAS USING THE SEED MIXTURE IDENTIFIED IN TABLE 2 UNLESS SPECIFIED BY THE OWNER.
7. APPLY SEED MIXTURES IN ACCORDANCE WITH THE 2012 PENNSYLVANIA EROSION AND SEDIMENT CONTROL MANUAL.
8. UPON STABILIZATION OF ALL DISTURBED AREAS (70% VEGETATION), REMOVE PERIMETER E&S CONTROLS.
9. HYDROSEED WITH OWNERS WRITTEN APPROVAL. THIS INCLUDES SUPPLEMENTAL APPLICATIONS AND MUST BE PART OF CONTRACTORS PROPOSAL.
10. ALL TOPSOIL AREAS LESS THAN 3:1 SLOPE MUST BE CULTIMULCHED WITH OWNERS APPROVED EQUIPMENT TO BE DRAGGED BEHIND WHEELED EQUIPMENT.
11. ALL TOPSOILED AREAS GREATER THAN 3:1 SLOPES MUST BE TRACKED WITH TRACKED EQUIPMENT AND HYDROSEED WITH FLEX TERRA OR APPROVED EQUAL OR MUST USE EROSION CONTROL MATTING.
12. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 72 HOURS OF COMPLETION.

TABLE 1	
PERMANENT SOIL SUPPLEMENTS RATES	
SUPPLEMENTS	
AGRICULTURAL LIME	2 TONS/ACRE
10-20-20 FERTILIZER	210 LBS/ACRE
MULCHING	
SUPPLEMENTS	RATES
MULCH	3 TONS/ACRE

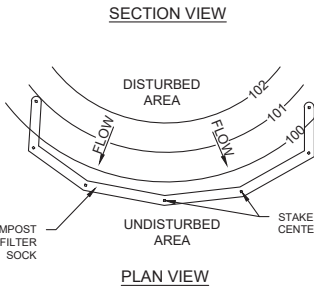
TABLE 2A	
HAY FIELD SEED MIX FOR DISTURBED AREAS BEYOND DE-COMPACTED PAD	
SEED	RATES
ALFALFA	7 LBS/ACRE
TIMOTHY	4 LBS/ACRE
WHITE CLOVER	3 LBS/ACRE
BIRDSFOOT TREFOIL	2 LBS/ACRE

STABILIZATION DURING NON-GROWING SEASONS:

ALL CONSTRUCTION SHOULD BE PLANNED FOR COMPLETION WITHIN THE RECOMMENDED DATES FOR THE APPLICATION OF PERMANENT SEEDING AND ESTABLISHMENT OF A PERMANENT VEGETATIVE COVER. HOWEVER, WHEN CONSTRUCTION MUST BE DONE AND IS COMPLETED DURING A NON-GROWING SEASON (WINTER TIME, ETC.), TEMPORARY STABILIZATION BMPs MUST BE IMPLEMENTED AND ADEQUATELY MAINTAINED. THE APPLICATION OF STRAW MULCH AT THE RATE OF THREE (3) TONS PER ACRE IS RECOMMENDED. THE BMPs SHOULD BE CHECKED WEEKLY (UNLESS SNOW COVERED) TO IDENTIFY AREAS THAT BECOME BARE. THESE BARE AREAS SHOULD BE COVERED WITH A PROPERLY INSTALLED EROSION CONTROL MATTING OR MULCH.

ALL TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROLS MUST BE MAINTAINED UNTIL 70% PERENNIAL VEGETATIVE COVER IS ACHIEVED.

ROCK CONSTRUCTION ENTRANCE
N.T.S.





- NOTES:

1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT (SEE ABOVE).
2. CONSTRUCTION TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES ½ THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED OF IN THE DESIGNATED FILL AREA.
4. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
5. BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
6. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

COMPOST FILTER SOCK DETAIL

N.T.S.

REVISIONS											BERNHART DAM BREACH PLAN MUHLENBERG TOWNSHIP, BERKS COUNTY, PENNSYLVANIA DEP STREAM CODE: 06-001		JOB NO.: 60547776		SCALE: AS SHOWN	
NO.	BY	CHKD	DATE	DESCRIPTION	DESIGNED BY: BRIAN SCHULTZ	09/09/19							SHEET: DET-2		DATE: 03/17/2020	
					DRAWN BY: BRIAN SCHULTZ	09/09/19										
					CHECKED BY: BILL WEHBRICHT	09/10/19										
					APPROVED BY: ROBERT PINCIOTTI	03/17/20										
					CLIENT APPROVED BY: CITY OF READING	N/A										
					FILE:								DRAWING NO.: 8		REV.: 0	
									DETAILS							